

REMARKS/ARGUMENTS

Claims 8-14 are pending in this application.

Applicants appreciate the Examiner's indication that Claim 11 would be allowable if rewritten in independent form including all of the features of the base claim and any intervening claims.

Claims 8 and 9 were rejected under 35 U.S.C. § 102(e) as being anticipated by Tabota (U.S. 6,672,160). Claims 10 and 12-14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tabota. Applicants respectfully traverse the rejections of Claim 8-10 and 12-14.

Claim 8 recites:

An acceleration sensor comprising:

a base plate; and

first and second resonators each including a piezoelectric material and each having electrodes on two opposite main surfaces thereof, each of the first and second resonators having a vibrating section at an intermediate portion of the respective resonator with respect to a longitudinal direction thereof; wherein

the first and second resonators are attached to opposite sides of the base plate with respect to a direction in which acceleration is applied so as to define a bimorph acceleration-sensor element, at least one longitudinal end of the acceleration-sensor element is fixed such that the first and second resonators bend in the same direction in response to the acceleration, and changes in frequency or changes in impedance in the first and second resonators caused by the bending of the acceleration-sensor element are differentially detected in order to detect the acceleration;

opposite sides of the acceleration-sensor element with respect to the application direction of acceleration are respectively covered with a pair of casing components; and

the first and second resonators are attached to the base plate such that the electrodes of the first and second resonators face at least one of opposite open planes defined by a combination of the acceleration-sensor element and the casing components with respect to a direction that is substantially perpendicular to the application direction of acceleration. (emphasis added)

With the unique combination and arrangement of features recited in Applicants' Claim 8, including the features of "the first and second resonators are attached to the base plate such that the electrodes of the first and second resonators face at least one of opposite open planes defined by a combination of the acceleration-sensor element and the casing components with respect to a direction that is substantially perpendicular to the application direction of acceleration," Applicants have been able to provide an acceleration sensor in which a difference in resonance characteristics between two resonators can be easily adjusted even when casing components are already attached to an acceleration-sensor element (see, for example, the first full paragraph on page 5 of the Substitute Specification).

The Examiner alleged that Tabota teaches all of the features recited in Applicants' Claim 8, including an acceleration-sensor element 2 including first and second resonators 3, 4 connected to opposite sides of a base plate 5, and electrodes 3a, 3b, 4a, 4b of the first and second resonators 3, 4 face at least one of opposite open planes defined by a combination of the acceleration sensor element 2 and the casing components 6 with respect to a direction that is substantially perpendicular to the application direction of acceleration G. Applicants respectfully disagree.

As clearly seen in Figs. 2 and 3 of Tabota reproduced below, contrary to the Examiner's allegations, the electrodes 3a, 3b and 4a, 4b of the first and second resonators face at least one of opposite open planes defined by a combination of the acceleration-sensor element 2 and the casing components 6 with respect to a direction **A** that is substantially parallel to the application direction of acceleration **G**, **NOT** substantially perpendicular to the application of direction of acceleration, as recited in Applicants' Claim 8.

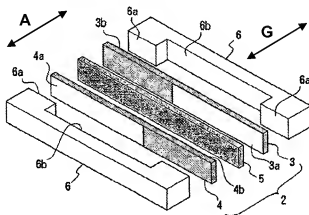


Fig. 2 of Tabota

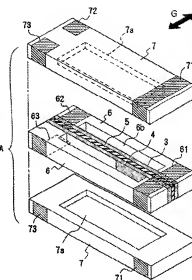


Fig. 3 of Tabota

As shown in Fig. 3 of the present application reproduced below, the first and second resonators 3 and 4 are attached to the base plate 5 such that the electrodes 3a, 3b and 4a, 4b of the first and second resonators 3 and 4 face at least one of opposite open planes defined by a combination of the acceleration-sensor element 2A and the casing components with respect to a direction Z that is substantially perpendicular to the application direction of acceleration G .

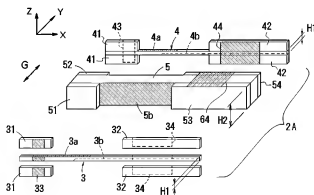


Fig. 3 of the Present Application

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Thus, Tabota et al. clearly fails to teach or suggest the features of "the first and second resonators are attached to the base plate such that the electrodes of the first and second resonators face at least one of opposite open planes defined by a combination of the acceleration-sensor element and the casing components with respect to a direction that is substantially perpendicular to the application direction of acceleration" as recited in Applicants' Claim 8.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of Claim 8 under 35 U.S.C. § 102(e) as being anticipated by Tabota.

In view of the foregoing remarks, Applicants respectfully submit that Claim 8 is allowable. Claims 9-14 depend upon Claim 8, and are therefore allowable for at least the reasons that Claim 8 is allowable.

In view of the foregoing remarks, Applicants respectfully submit that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

To the extent necessary, Applicants petition the Commissioner for a Two-Month Extension of Time, extending to March 20, 2007, the period for response to the Office Action dated October 20, 2006.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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/Christopher A. Bennett #46,710/
Attorneys for Applicant(s)

KEATING & BENNETT, LLP
8180 Greensboro Drive, Suite 850
Tyson's Corner, VA 22102
Telephone: (703) 637-1480
Facsimile: (703) 637-1499

Joseph R. Keating
Registration No. 37,368

Christopher A. Bennett
Registration No. 46,710